DOCUMENT RESUME

ED 358 474 CS 213 882

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TITLE Confidence and Competence in Writing: The Role of Self-Efficacy, Outcome Expectancy, and Apprehension.
PUB DATE Apr 93
NOTE 26p.; Paper presented at the Annual Meeting of the American Educational Research Association (Atlanta, GA, April 12-16, 1993).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Correlation; Higher Education; Models; Predictor Variables; *Self Efficacy; Social Cognition; Theories; Undergraduate Students; *Writing Achievement; *Writing Apprehension; Writing Research; Writing Skills
IDENTIFIERS Composition Theory

ABSTRACT

A study investigated the writing self-efficacy, writing outcome expectations, writing apprehension, personal self-efficacy, and writing performance of 30 undergraduate students throughout one semester. Results indicated support for social cognitive theory and prior findings that report a relationship between self-efficacy and performance. A regression model accounted for 68% of the variance in writing performance. Writing skills self-efficacy and the pre-performance measure were the only significant predictors. Writing apprehension was negatively correlated with writing self-efficacy but was not predictive of writing performance. Personal self-efficacy was correlated with writing self-efficacy, outcome expectations, apprehension, and performance but was not predictive of writing performance in the regression model. Findings which support a significant relationship between self-efficacy and related performance suggest that academic performance in an area such as writing can be informed by exploring the confidence individuals bring to this performance. (Three tables of data are included; 55 references are attached.) (Author/RS)

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# CONFIDENCE AND COMPETENCE IN WRITING: THE ROLE OF SELF-EFFICACY, OUTCOME EXPECTANCY, AND APPREHENSION

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# CONFIDENCE AND COMPETENCE IN WRITING: THE ROLE OF SELF-EFFICACY, OUTCOME EXPECTANCY, AND APPREHENSION

## Abstract

This study investigated the writing self-efficacy, writing outcome expectations, writing apprehension, personal self-efficacy, and writing performance of 30 undergraduates throughout one semester. Results supported social cognitive theory and prior findings that report a relationship between self-efficacy and performance. A regression model consisting of the variables noted above and a pre-performance measure accounted for 68% of the variance in writing performance. Writing skills self-efficacy and the pre-performance measure were the only significant predictors. Writing apprehension was negatively correlated with writing self-efficacy but was not predictive of writing performance. Personal self-efficacy was correlated with writing self-efficacy, outcome expectations, apprehension, and performance but was not predictive of writing performance in the regression model. Results and implications are discussed, especially as they relate to the need for context-specific self-efficacy assessment.

In Social Foundations of Thought and Action, Bandura (1986) argued that the richness and complexity of human behavior cannot be explained simply in terms of environmental forces and external reinforcements, for individuals possess a self system that enables them to exercise a measure of control over their thoughts, feelings, and actions. This self system includes the abilities to symbolize, learn from others, plan alternative strategies, self-regulate behavior, and self-reflect. Human behavior is the result of the interplay between this self system and external-environmental sources of influence.

Bandura (1986) contended that individuals use self-referent thought to mediate between knowledge and behavior. Knowledge, skill, or prior performance, he argued, are often poor predictors of subsequent performance, for the beliefs people hold about their abilities and about the outcome of their efforts powerfully influence the ways in which they will behave. Of all beliefs, self-efficacy, "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391), is the most influential arbiter in human agency. It is self-efficacy that helps explain why people's behavior may differ markedly even when they have similar knowledge and skills. That is, what people do is often better predicted by their beliefs about their capabilities than by what they are actually capable of accomplishing.

Self-efficacy beliefs differ from outcome expectations, "judgment[s] of the likely consequence [that] behavior will produce" (p. 391). Outcome expectations are related to self-efficacy beliefs precisely because these beliefs in part determine the expectations. Individuals who expect success in a particular enterprise anticipate successful outcomes. Students confident in academic skills expect high marks on related exams and papers; academic researchers confident in their writing expect their articles will be well-received by publishers and by the research community. Both expect

the quality of their work to reap personal and professional benefits. The opposite is also true of those who lack such confidence. Students who doubt their academic ability see a low grade on their paper even before they begin the exam; researchers who believe themselves poor writers expect a rejection letter before mailing the manuscript. The expected results of these imagined performances will be grimly envisioned: academic failure for the former, no tenure for the latter.

Bandura (1986) suggested that because the outcomes people expect are the result of the judgments of what they can accomplish, outcome expectations are unlikely to contribute to predictions of behavior. Therefore, under normal circumstances, behavior is largely determined by self-efficacy beliefs rather than by outcome expectations because individuals' assessments of their capabilities are basically responsible for the outcomes they expect. This interplay may well be more complex and deserves further scrutiny, but it is consistent with the view of researchers who argue that the potent affective, evaluative, and episodic nature of beliefs make them a filter through which new phenomena are interpreted (Abelson, 1979; Calderhead & Robson, 1991; Eraut, 1985; Goodman, 1988; Nisbett & Ross, 1980; Nespor, 1987; ***, 1992; Posner, Strike, Hewson, & Gertzog, 1982; Rokeach, 1968; Schommer, 1990; Underhill, 1988).

One area that has received little attention but that has important implications for understanding human motivation and performance involves the self-efficacy beliefs related to academic outcomes such as writing. Most individuals learn as youngsters to write, and they grow to become writers with differing levels of expertise. Some researchers have established the relationship between self-efficacy and academic performance, and some have also explored that between writing self-efficacy and writing performance, albeit with varying results.

## Self-efficacy Beliefs and Academic Performance

Bandura (1977, 1982, 1986) suggested that self-efficacy beliefs are strong predictors of related performance, that the confidence people bring to a specific task plays a strong role in their success or failure to complete that task. In the area of academic achievement, most researchers agree that academic self-efficacy beliefs are related to and predictive of academic performance. After a meta-analytic investigation of 36 studies using 4,998 subjects, Multon, Brown, and Lent (1991) concluded that self-efficacy was related to academic performance, although the variances recorded differed depending on the specific characteristics of the studies, such as the time period during which the variables were assessed, students' achievement status, subjects' age, and the type of performance measure used.

Wood and Locke (1987) examined the relationship between self-efficacy beliefs and the grades of college students and found that even when ability was controlled the effect was moderate but significant (.27). They suggested that one reason for such a moderate relationship may have been that self-efficacy was assessed two months before the outcome measure. Lent, Brown, and Larkin (1984) found that the self-efficacy beliefs of students participating in a science and engineering 10-week career planning course were related to their grades and persistence during the following year. Higher self-efficacy students received higher grades and persisted longer in related majors. In addition, Lent et al. obtained SAT scores, high school rank, and previous college grades as measures of academic aptitude to correlate this construct with self-efficacy beliefs. They found that self-efficacy and aptitude were moderately correlated but concluded that the precise nature of that relationship required additional study.

## Self-efficacy Beliefs and Writing Performance

Few researchers have explored the effect of self-efficacy beliefs on writing, but those who have generally agree that the two variables are

related. Shell, Murphy, and Bruning (1989) studied the relationship between self-efficacy/outcome beliefs and reading/writing performance. They constructed a measure of writing self-efficacy consisting of two scales. The first attempted to assess students' confidence that they could successfully perform specific writing skills (e.g., correctly punctuate a passage); the second sought to discover their confidence to successfully complete specific writing tasks (e.g., a letter, a term paper). Each describes and measures very different self-efficacy beliefs, and implications of differing findings related to them are conceptually important and will be later discussed. Shell et al. also constructed a measure of writing outcome expectations that asked students to rate the importance of writing for achieving various life goals (e.g., getting a job, being financially secure). Both measures were administered to 153 undergraduates. Writing samples in the form of 20-minute essays were obtained and evaluated by two expert raters using holistic assessment methods (interrater $r$ = .75). Shell et al. discovered a significant relationship between writing performance and writing skills self-efficacy (.32) but not between performance and writing task self-efficacy (.17) or outcome expectations (.13).

McCarthy, Meier, and Rinderer (1985) defined writing self-efficacy as students' self evaluation of their own writing skills, constructed an instrument that identified and defined 19 writing "skills," and asked students to indicate with a "yes" or "no" whether they could demonstrate the skill (e.g., "Can you write sentences in which the subjects and verbs are in agreement?"). They administered this instrument, an anxiety measure, a questionnaire to assess locus of control orientation, and a cognitive processing inventory. Writing performance was measured from student essays by four expert raters (interrater $r$ = .92). Due to irregularities in the first study, a second study was completed (with the same subjects), and the researchers found that only writing self-efficacy, what Shell et al.

(1989) operationalized as writing skills self-efficacy, was related to writing performance on the first study, but self-efficacy and writing anxiety correlated with performance on the second. The relationship between self-efficacy and performance was a moderate .33, a low but significant correlation in line with the findings of Shell et al.

Writing Apprehension and Writing Performance

McLeod (1987) argued that because writing is as much an emotional as a cognitive activity, affective components strongly influence all phases of the writing process. She urged researchers to explore writing anxiety (specifically writing apprehension) and other affective measures with an eye toward developing a "theory of affect" to help students understand how their affective processes inform their writing. Writing apprehension, a construct created by Daly and Miller (1975a) that describes a form of writing anxiety, has already received much attention. The work of Daly and associates (Daly, 1978; Daly & Miller, 1975a, 1975b; Daly & Wilson, 1983; Faigley, Daly, & Witte, 1981) has been instrumental in this area.

After constructing a Writing Apprehension Test, Daly and Miller (1975b) administered it to 246 undergraduates to discover the relationship between apprehension and a host of measures that included verbal aptitude (SAT scores), writing self-efficacy (under the guise of "perceived likelihood of success in writing" and measured with two questions), willingness to take writing courses, and reported success in previous writing courses. Significant correlations were found between writing apprehension and SAT-verbal scores (.19), success expectation (.59), and willingness to take additional writing courses (.57). They also found that males were significantly more apprehensive than were females and that apprehension was related to self-reported previous success in writing courses.

Other studies have found that writing apprehension is related to writing aptitude and to writing performance (e.g., Daly, 1978; Faigley, Daly, & Witte, 1981), although both aptitude and performance have been measured in different ways and correlations have run the gamut from nonsignificance to $p < .001$. Faigley et al. (1981) found that the relationship was significant when writing performance was measured using a standardized test but not necessarily when an essay was used (only one of two samples was significant). McCarthy et al. (1985) failed to find a relationship between writing apprehension and either writing self-efficacy or performance in the first of her studies.

## Method

Because recent findings related to writing self-efficacy have not been clear or consistent, this study sought to inform Bandura's (1986) social cognitive theory by exploring self-efficacy beliefs about writing in ways that would clarify theoretical concerns. Specifically, we investigated the relationship between three key variables--writing self-efficacy, outcome expectations, and writing apprehension--and the writing performance of adult skilled writers (undergraduate college students), as well as the relationships among the variables themselves. In addition, change in self-beliefs, apprehension, and performance was assessed. Finally, students' personal self-efficacy was measured and its relationship to the other constructs investigated.

### Subjects and Procedures

Subjects were 30 undergraduate teacher candidates (25 female, 5 male; 29 White, 1 Black) enrolled in a teacher preparation class, "Language Arts in the Elementary School," at a large, southern university during spring semester 1992. Self-efficacy, apprehension, and performance measures were administered twice during the 16-week term, on the first and last weeks. Of specific interest were (a) the relationships among the variables under

consideration, (b) the relationship between writing performance and the independent measures, and (c) reported change in beliefs, apprehension, and performance between administrations. Pearson Product Moment correlations were obtained to explore the relationship among the variables, step-wise multiple regression analyses were performed to assess the relationship between the independent variables and the outcome measure (using the pre-writing performance measure to control for preexisting differences in writing performance), and two-tailed t-tests, with critical t values adjusted using the Dunn procedure to enable four comparisons required, were used to determine change in writing skills self-efficacy, writing task self-efficacy, writing apprehension, and writing performance from beginning to end of term.

Measurement of Variables

Writing performance. Perhaps the most salient limitation of any study of writing involves the nature of the outcome variable, writing performance. Assessing an individual's writing is not an objective or clearly defined task. It involves an inference by the reader of the quality of a written work, and this inference carries with it a host of possible biases and interpretations that can make the assessment an unreliable reflection of actual merit. Researchers in the field of composition believe that although a timed, in-class writing sample is an imperfect reflection of writing ability, it is the most valid measure available (Foster, 1983). Holistic scoring by expert readers provides the most reasonable means to assess writing performance, is subject to interrater reliability checks, and, when standardized procedures are followed, provides consistent results (Hillocks, 1986).

Given the obvious limitations of personal interpretation and subtle biases, expert readers of student essays are reliable and valid assessors of writing performance. In this study, subjects were asked to write two 30-minute essays, one during the first week of the term and another at the end.

The topic was the same used by Shell et al. (1989), "What do you believe to be the qualities of a successful teacher?" Both essays were scored by the researchers using a holistic scoring method consisting of a 5-point scale. Interrater reliability scores were above .85 for both samples, but final agreement on performance score was reached by discussion and consensus (see Wolcott, 1989). The researchers were at all times unaware of student identities. It merits noting that both authors had spent a sizeable portion of their professional lives as teachers of English composition.

Writing self-efficacy beliefs are individuals' judgment of their competence in writing, specifically their judgment of their ability to write different writing tasks and of their possession of varying composition, usage, and mechanical skills. Self-efficacy instruments administered were developed by Shell et al. (1989) and consisted of the two subscales earlier described to differentiate the separate effects noted above. Each subscale asked students, on a scale of 0 to 100, to rate their confidence in being able to successfully accomplish specific writing tasks or perform specific writing skills. Shell et al. reported reliability scores of .92 for the tasks subscale and .95 for the skills subscale. Factor analysis showed positive and above .40 correlations between items and subscale scores. The researchers have continued to use the instruments in as yet unpublished studies and have refined them in light of continued analysis and with an eye to greater clarity (Bruning, 1992, personal communication).

Writing outcome expectations were operationalized by Shell et al. (1989) as individuals' judgments of the importance of writing for successfully accomplishing various academic and life endeavors (a definition somewhat inconsistent with Bandura's description but which we followed for purposes of comparing findings). The instrument used to assess this construct was also developed by Shell et al. and consisted of 20 items using a 7-point Likert scale asking subjects to rate the importance of writing for achieving

various life goals. Shell et al. reported reliability scores of .93 and positive and above .40 correlations for all items.

Writing apprehension describes "a person's tendencies to approach or avoid situations perceived to potentially require writing accompanied by some amount of perceived evaluation" (Daly & Wilson, 1983, p. 327). This study used the Writing Apprehension Test (Daly & Miller, 1975b), a 26-item Likert-scale type inventory (Cronbach's alpha .89) that has been used extensively and proven to be a reliable instrument with which to measure writing anxiety. In a recent examination of its reliability, Reed, Burton, and Vandett (1988) found the instrument reliable but suggested that the 5-point Likert scale be reduced to four points by removing the uncertain response. That adjustment was made for this study.

Personal Self-efficacy. Because self-efficacy is task and context specific, Bandura (1986) urged researchers to explore specific behavior performances and assess self-efficacy in terms of an individual's confidence to successfully perform the specific behavior involved. He argued that measures of global self-efficacy should tell us very little about someone's academic performance and even less about a specific academic performance in areas such as reading, mathematics, or writing. Confidence in being able to successfully perform a task will inform our more general self only to the degree that we identify our self with that task, but even then it may be of limited value in predicting behaviors not associated with the specific beliefs. Nonetheless, Daly and Wilson (1983) administered the writing apprehension instrument to 172 undergraduates and reported a relationship between writing apprehension and general self-esteem (-31), and self-concept theory has a long, if controversial, history of findings arguing for a relationship between self-concept and academic achievement (see Purkey, 1988).

Though self-efficacy and self-concept are very different constructs, represent differing theoretical orientations, and involve different

paradigmatic assumptions, Gorrell (1990) argued that findings related to self-efficacy will ultimately strengthen the self-concept/achievement relationship. With these findings and suggestions in mind, the authors were curious as to whether global self-efficacy might indeed be related to writing performance and to the other constructs under investigation. Consequently, all students were administered the Self-Efficacy Scale, a 23-item instrument created by Sherer et al. (1982) to assess global self-efficacy. Cronbach alpha reliability coefficients of .86 for the general subscale and .71 for the social subscale were reported, and factor analysis revealed positive and significant correlations for all items.

## Results

The first issue under consideration was the relationship among the variables themselves, and results were both supportive of earlier research and social cognitive theory and yet surprising. As expected, writing self-efficacy was significantly related to writing performance on both administrations (.39 pre, .38 post); outcome expectations was related to performance only on the post administration (.54). Correlations were similar to those reported by Shell et al. (1989) and McCarthy (1985). Writing apprehension, however, was unrelated to writing performance (-.02 pre, -.12 post), though its relationship to writing self-efficacy was strong (-.56 pre, -.49 post). Results support previous findings by McCarthy (1985), but the lack of relationship between apprehension and performance contradicts earlier findings by Daly and associates (Daly, 1975b; Daly, 1978; Faigley et al., 1981). The surprising finding was the significant relationship between personal self-efficacy and all related variables, with the singular exception of the writing skills self-efficacy scale.

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Insert Table 1 about here

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Multiple regression analyses revealed that a model with writing skills self-efficacy, writing tasks self-efficacy, outcome expectations, writing apprehension, personal self-efficacy, and writing performance at beginning of term predicted performance at end of term, $F(6,23) = 8.17$, $p < .0001$, and accounted for 68% of the variance in performance. The magnitude of $R^2$ is especially notable in light of the modest sample size. Only writing skills self-efficacy, $t = 3.09$, $p < .01$, and pre-performance, $t = 3.11$, $p < .01$, had significant effects, however. Writing apprehension was nonsignificant and accounted for only 1% of the variance in the model. Writing tasks self-efficacy also proved nonsignificant, a finding that will be later explained. As predicted by social cognitive theory, outcome expectations and personal self-efficacy also proved nonsignificant.

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Insert Table 2 about here

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Five pre-post administration comparisons were made to gauge whether full-scale writing self-efficacy, writing skills self-efficacy, writing tasks self-efficacy, writing apprehension, and writing performance changed from beginning to end of term. Using the Dunn procedure to permit five comparisons, $p < .01$ was required for significance. We found significant increases in writing tasks self-efficacy (67.7 pre, 77.2 post) and writing performance (3.1 pre, 3.5 post). Clearly, no change took place in writing skills self-efficacy (84.03 pre, 84.3 post), and this prevented the full-scale self-efficacy measure from reaching significance (151.7 pre, 161.5 post). There was no significant change in writing apprehension.

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Insert Table 3 about here

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## Discussion

The one clear finding to emerge from this study is the support for prior investigators reporting a significant relationship between self-efficacy and related performance. Writing self-efficacy was predictive of writing performance both at beginning and end of term. Specifically, however, it was the students' confidence in their writing skills that accounted for the correspondence between writing beliefs and writing performance, and not their confidence that they could accomplish specific writing tasks.

Writing skills self-efficacy did not change throughout the semester, whereas writing tasks self-efficacy and performance increased. These apparently contradictory findings are not surprising. Throughout the study, students were enrolled in a course on language arts in the elementary school, a course with a whole-language orientation. This was not a composition class and there was little effort to improve students' writing skills per se; rather, the instructor worked to instill in the students an appreciation for what they could do with the skills they possessed in the hopes that this same appreciation could be passed on to their own students. It is no surprise, then, that writing tasks self-efficacy increased significantly whereas perceptions of writing skills did not. The surprise is that, in the absence of perceived improvement in skills, performance scores increased. One might argue that the students' own raised expectations of their own potential to accomplish writing-related tasks may have played a hand. More plausible is the argument that writing skills did improve throughout the semester (how could they not in a writing-related class?), but that students' beliefs about these skills are slow to change in the absence of direct feedback and social comparisons, which the instructor did not provide. Students were not graded for the types of composition-like measures that were a part of the self-efficacy skills scale, and they could not make use of that feedback to change their perceptions of their growing

writing performance. They did, however, receive regular and positive feedback regarding their ability to accomplish varied writing tasks, and they shared these abilities with their classmates.

Shell et al. (1989) argued that a complete accounting of writing self-efficacy must take into account both writing skills and writing tasks assessments. When performance measures are assessed in terms of the skills evident in the task, however, it is natural that skills perceived and skills assessed will be in closer correspondence. This is the case when holistic scoring of students' essays has these skills as criteria. Our results are consistent with those of Shell et al. (1989), who reported significantly higher skills self-efficacy/performance correlations (.32) than tasks self-efficacy/performance (.17). It is likely, however, than when performance is measured in terms of a task, tasks self-efficacy would come in closer correspondence with performance. Students' decisions to pursue additional writing courses or engage in writing tasks, for example, will more likely be predicted by their writing tasks self-efficacy than by their perceived writing skills. This is part of the context specific nature of self-efficacy about which Bandura offers stern warnings, and it has important implications for future research.

One other result bears noting. Wood and Locke (1987) found that when self-efficacy was measured two months prior to performance, the relationship was a nonsignificant .21. This, too, would have occurred in our study had we compared self-efficacy at beginning of term with performance at end (.27). This strengthens Bandura's caution that self-efficacy and performance be assessed in as close a temporal interval as possible.

We found no correspondence between writing self-efficacy beliefs and outcome expectations, and these expectations did not change as a result of increases in performance and tasks self-efficacy--students' expectations of

the importance of writing were unrelated to their writing confidence, and these expectations remained stable in spite of students' growing confidence to accomplish writing-related tasks. Outcome expectations were significantly correlated with end-of-term writing performance (.55) but not predictive of it in the regression model. The high correlation is at odds with the nonsignificant .13 reported by Shell et al. (1989), but results of the multiple regression analysis suggest that the influence of outcome expectations on performance is mediated by writing self-efficacy, a result supportive of social cognitive theory.

The role of writing apprehension was equally telling. We found no correspondence between students' writing anxiety and their performance, either linear or quadratic, though apprehension was negatively related to self-efficacy beliefs (-.50), a finding well supported by previous research on writing and by researchers exploring other academic areas (see Alexander & Martray, 1989; Hackett & Betz, 1989). Moreover, writing apprehension accounted for little variance in the multiple regression model, and students's feelings of anxiety about writing remained unchanged even as their performance and self-efficacy increased. In related research, Siegel, Galassi, and Ware (1985) studied the math self-efficacy and anxiety of 143 undergraduates and found that whereas mathematics self-efficacy accounted for a significant portion of the variance in performance, anxiety did not. Writing apprehension, like writing skills self-efficacy, also proved remarkably resilient and remained unchanged throughout the term, a puzzling finding considering the significant increase in students' writing tasks self—efficacy. Students gained confidence in the writing tasks they could perform but remained equally anxious about their writing.

Little can be said of the findings related to personal self-efficacy beyond noting them and conjecturing. This global construct, about which Bandura (1986) suggests "it is no more informative to speak of...than to

speak of nonspecific social behavior" (p. 411), was significantly correlated with writing self-efficacy, outcome expectations, writing performance, and especially the apprehension students felt about their writing (-.56 at beginning of term, -.66 at end). The one nonsignificant correlation was with the perceptions students had of their own writing skills.

Rokeach (1968) and Nisbett and Ross (1980) argued that individuals take deeply held beliefs very seriously and even fuse them with their own identity, so that it can sometimes be difficult to separate self from belief. We are, in very real fashion, what we believe. For this reason, our "self" can become fused with beliefs that form the core of who we are, and so writers' beliefs about their writing or athletes' confidence about their abilities in their sport are, in essence, beliefs about their very self. College students perceive themselves, to greater or lesser degrees, as readers and writers. To that degree, personal self-efficacy may be tied to beliefs related to reading and writing ability. As such, it may be that students' beliefs about some of their academic capabilities affect their more personal and more general beliefs about themselves as individuals. Results of the multiple regression analysis, however, revealed that personal self-efficacy did not influence writing performance. As with other variables, it is likely that this influence is mediated by the more context-specific writing self-efficacy beliefs.

As our study demonstrates, academic performance in an area such as writing can be informed by exploring the confidence individuals bring to this performance. Future efforts should investigate more specific processes related to writing self-efficacy beliefs, the more specific correspondence between self-efficacy and academic outcome measures (see Schunk, 1989), the relationship between these beliefs and other self-beliefs, and Bandura's (1986) contention about the mediational nature of self-efficacy (see Brown, Lent, & Larking, 1989; Relich, Debus, & Walker, 1986).

Promising inroads utilizing powerful statistical path analyses to develop causal models have already been made in related areas such as mathematics (see Hackett, 1985), and it would be valuable to examine writing constructs with these same tools. Also, Schunk (1991) noted that although quantitative methods have typically been used in studying self-efficacy, qualitative methods such as case studies or oral histories are needed to gain additional insights, and Munby (1982, 1984) suggested that qualitative research methodology is especially relevant and appropriate to the study of beliefs. Self-efficacy theory offers a promising avenue through which to better understand individual behavior, an avenue that can help educators not only to understand the process itself, but to inform one way in which they might go about the important business of building competence through confidence.

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Table 1

Pearson Product Moment Correlations for Post-administration Measures

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. Writing Performance | | .38* | .11 | .53** | .55*** | -.12 | .41* | .57*** |
| 2. Writing Self-efficacy | | | .84*** | .87*** | .28 | -.50** | .48** | .16 |
| 3. Writing Tasks subscale | | | | .47** | .23 | -.57*** | .50** | .03 |
| 4. Writing Skills subscale | | | | | .24 | -.29 | .33 | .23 |
| 5. Writing Outcome Expectations | | | | | | -.23 | .51** | .27 |
| 6. Writing Apprehension | | | | | | | -.66*** | -.03 |
| 7. Personal Self-efficacy | | | | | | | | .07 |
| 8. Writing Performance (pre) | | | | | | | | |

* $p < .05$

** $p < .01$

*** $p < .001$

Note: Personal self-efficacy was assessed only at beginning of term.
All other variables in the table are end-of-term measures.

Table 2

Full Model Multiple Regression Values for Independent Variables

Dependent Variable: Writing Performance at end of term

| Variable | Parameter Estimate | Standard Error | t | p > \|t\| |
|---|---|---|---|---|
| Writing Skills Self-efficacy | .02 | .01 | 3.09 | .005* |
| Writing Tasks Self-efficacy | -.01 | .01 | -1.53 | .140 |
| Writing Outcome Expectations | .23 | .13 | 1.80 | .086 |
| Writing Apprehension | .01 | .01 | 0.84 | .410 |
| Personal Self-efficacy | .01 | .01 | 1.74 | .095 |
| Writing Performance (pre) | .39 | .12 | 3.11 | .005* |

$R^2 = .68$

Table 3

Pre- and Post-test Means and Mean Differences for Writing Self-efficacy, Writing Tasks and Skills subscales, Writing Apprehension, and Writing Performance

| | Pre-test | Post-test | Mean Difference |
|---|---|---|---|
| Writing Self-efficacy | 151.70 | 161.50 | 9.80 |
| Writing Tasks Subscale | 67.67 | 77.20 | 9.53* |
| Writing Skills Subscale | 84.03 | 84.30 | 0.27 |
| Writing Apprehension | 63.77 | 60.90 | -2.87 |
| Writing Performance | 3.07 | 3.50 | 0.43* |

*t* < .01